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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,467	07/23/2003	Peter Graf	003-071	9880

36844 7590 06/09/2006

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EXAMINER

KIM, TAE JUN

ART UNIT	PAPER NUMBER
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3746

DATE MAILED: 06/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/625,467

Applicant(s)

GRAF ET AL.

Examiner

Ted Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07/23/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/24/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figure 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-9, 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Snyder (2002/0116929). Snyder teaches an annular combustor for a gas turbine, comprising a wall, an inlet side, and an outlet side, the inlet side configured and arranged to accept

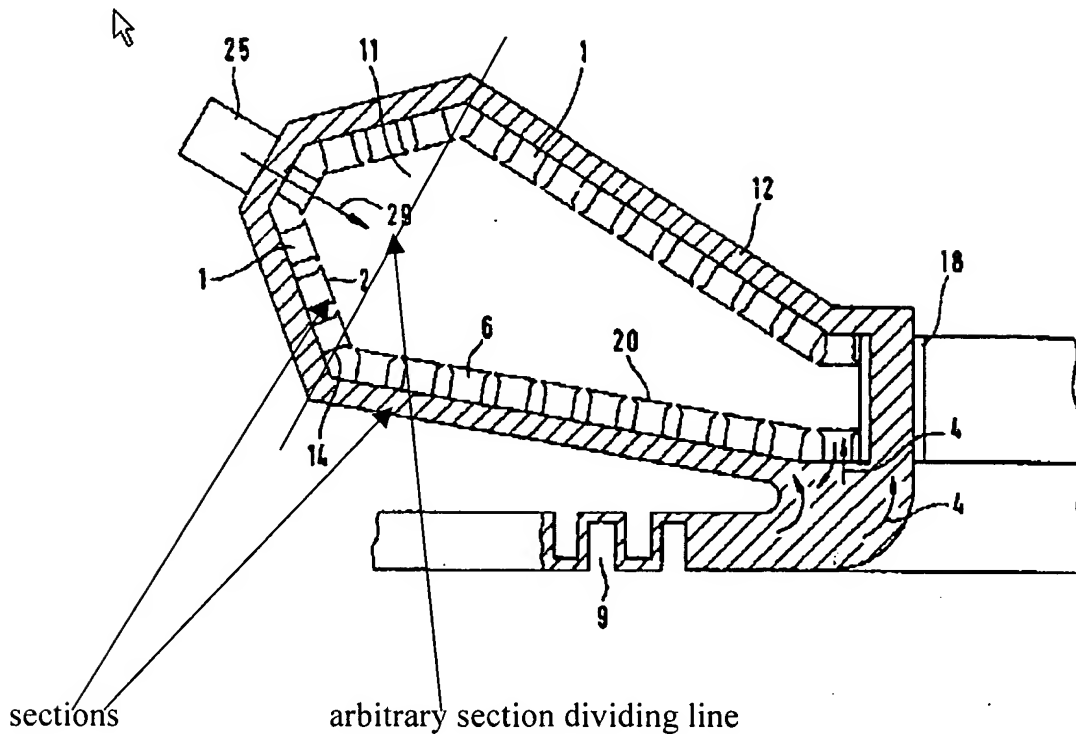
burners 76 opening on the inlet side, the combustor extending in an axial direction from the inlet side to the outlet side, cooled liner segments 46, 48, 60, 62 lining sides of the wall for protection from hot gases, wherein the liner segments are subdivided in the axial direction into a plurality of parts arranged one behind the other; wherein the liner segments 46, 48 and 60, 62 are subdivided into two parts; wherein the liner segments are subdivided where the flow velocity of the hot gases is low; wherein the liner segments are subdivided in such a way that the lengths of the individual segment parts in the axial direction are approximately the same; a plurality of segment carriers 50, 44 and 64, 66 the liner segments are fastened to the segment carriers, the segment carriers 50, 44 and 64, 66 are being subdivided in the axial direction into a plurality of parts; wherein the liner segments are convection-cooled (see Fig. 3); wherein the subdivided liner segments are separately convection-cooled; the cooling medium flowing through those parts of the liner segments which are situated downstream, the cooling medium being released into the hot-gas flow of the combustor; wherein parts of the liner segments 48, 62 which are located downstream are cooled only by part of the mass flow provided overall for the cooling of the liner segments; at least burner 76 positioned at the inlet side.

4. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by DE 3435611. DE '611 teaches an annular combustor for a gas turbine, comprising a wall, an inlet side, and an outlet side, the inlet side configured and arranged to accept burners 14, 16 opening on the inlet side, the combustor extending in an axial direction from the inlet side to the outlet side, cooled liner segments 32a, 32b and 34a, 34b and lining sides of the

wall for protection from hot gases, wherein the liner segments 32a, 32b and 34a, 34b are subdivided in the axial direction into a plurality of parts arranged one behind the other; wherein the liner segments are subdivided into two parts; wherein the liner segments are subdivided where the flow velocity of the hot gases is low; wherein the liner segments are subdivided in such a way that the lengths of the individual segment parts in the axial direction are approximately the same; a plurality of segment carriers 26a, 26b and 28 (two pieces), the liner segments are fastened to the segment carriers, the segment carriers 26a, 26b and 28 (two pieces) are being subdivided in the axial direction into a plurality of parts; wherein the liner segments are convection-cooled; wherein the subdivided liner segments are separately convection-cooled; the cooling medium flowing through those parts of the liner segments which are situated downstream, the cooling medium being released into the hot-gas flow of the combustor; transition channels provided between the subdivided liner segments, through which transition channels 88 the convectively cooling medium can flow from one part of the liner segments 40 into the other part of the liner segments 46 (see Fig. 3, note that applicant does not define where the cooling occurs); wherein parts of the liner segments which are located downstream are cooled only by part of the mass flow provided overall for the cooling of the liner segments; at least burner 14, 16 positioned at the inlet side

5. Claims 1-7, 9, 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Gross et al (6,047,552). Gross et al teach an annular combustor 11 for a gas turbine, comprising a wall, an inlet side, and an outlet side, the inlet side configured and arranged

to accept burners 25 opening on the inlet side, the combustor extending in an axial direction from the inlet side to the outlet side, cooled liner segments 1 lining sides of the wall for protection from hot gases, wherein the liner segments are subdivided in the axial direction into a plurality of parts arranged one behind the other; wherein the liner segments 2 are subdivided into two parts; wherein the liner segments are subdivided where the flow velocity of the hot gases is low, i.e. where the cross section is largest and thus inherently where the velocity is lowest; wherein the liner segments are subdivided in such a way that the lengths of the individual segment parts in the axial direction are approximately the same; a plurality of segment carriers, the liner segments are fastened to the segment carriers, the segment carriers are being subdivided in the axial direction into a plurality of parts; wherein the liner segments are convection-cooled; wherein the subdivided liner segments are separately convection-cooled (see Fig. 3); the cooling medium flowing through those parts of the liner segments which are situated downstream; transition channels 5 provided between the subdivided liner segments, through which transition channels 5 the convectively cooling medium can flow from one part of the liner segments into the other part of the liner segments; at least burner 25 positioned at the inlet side.



6. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by DE 19727407. DE '407 teaches an annular combustor for a gas turbine, comprising a wall, an inlet side, and an outlet side, the inlet side configured and arranged to accept burners 2 opening on the inlet side, the combustor extending in an axial direction from the inlet side to the outlet side, cooled liner segments 3, 7 lining sides of the wall for protection from hot gases, wherein the liner segments are subdivided in the axial direction into a plurality of parts arranged one behind the other; wherein the liner segments are subdivided into two parts; wherein the liner segments are subdivided where the flow velocity of the hot gases is low; wherein the liner segments are subdivided in such a way that the lengths of the individual segment parts in the axial direction are approximately the same; a plurality of segment carriers, the liner segments are fastened to the segment carriers, the segment

carriers are being subdivided in the axial direction into a plurality of parts; wherein the liner segments are convection-cooled (Fig. 3); wherein the subdivided liner segments are separately convection-cooled; the cooling medium flowing through those parts of the liner segments which are situated downstream, the cooling medium being released 8 into the hot-gas flow of the combustor; transition channels (e.g. for flow about 9) provided between the subdivided liner segments, through which transition channels the convectively cooling medium can flow from one part of the liner segments into the other part of the liner segments; wherein parts of the liner segments which are located downstream are cooled only by part of the mass flow provided overall for the cooling of the liner segments; at least burner 2 positioned at the inlet side.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Snyder (2002,0116929) in view of Luffy et al (5,435,127). Snyder teaches various aspects of the claimed invention but do not teach a transition section for allowing cooling medium from flowing from one part of the liner segments into the other part of the liner segments. Luffy et al teach transition channels 58 provided between the subdivided liner segments

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54 and 60, through which transition channels the convectively cooling medium can flow from one part of the liner segments 54 into the other part of the liner segments 60 for cooling thereof in a gas turbine engine. It would have been obvious to one of ordinary skill in the art to provide transition channels, as taught by Luffy et al, in order to facilitate continued use of the cooling fluid and thus reduce the overall amount of cooling fluid required.

Contact Information

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 571-272-4829. The Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

The fax numbers for the organization where this application is assigned are 571-273-8300 for Regular faxes and 571-273-8300 for After Final faxes.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe, can be reached at 571-272-4444.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist of Technology Center 3700, whose telephone number is 703-308-0861. General inquiries can also be directed to the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at <http://www.uspto.gov/main/patents.htm>



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